

CLAIMS

What is Claimed is:

- 1 1. An apparatus for providing power from a first circuit board having a first
2 circuit board first conductive surface and a first circuit board second conductive surface
3 to a second circuit board having a second circuit board first conductive surface and a
4 second circuit board second conductive surface, comprising:
5 a first conductive member, including a first end having a first conductive member
6 first surface electrically coupleable to the first circuit board first conductive surface and a
7 second end distal from the first end having a first conductive member second surface
8 electrically coupleable to the second circuit board first surface; and
9 a second conductive member, having a second conductive member first surface
10 electrically coupleable to the first circuit board second surface and a second conductive
11 member second surface distal from the second conductive member first surface
12 electrically coupleable to the second circuit board second conductive surface.
- 1 2. The apparatus of claim 1, wherein the first conductive member is a
2 different length than the second conductive member
- 1 3. The apparatus of claim 1, wherein the second conductive member is
2 hollow and the first conductive member is disposed within the second conductive
3 member.

1 4. The apparatus of claim 2, wherein the first conductive member and the
2 second conductive member have matching cross sectional shapes selected from group
3 comprising:

4 circular;
5 linear;
6 ovoid; and
7 rectangular.

1 5. The apparatus of claim 2, wherein the first conductive member and the
2 second conductive member are coaxial.

1 6. The apparatus of claim 5, further comprising a dielectric disposed between
2 the first conductive member and the second conductive member.

1 7. The apparatus of claim 1, wherein:
2 the first conductive member is rigid mechanical standoff member mechanically
3 coupling the first circuit board and the second circuit board, and is disposable between the
4 first circuit board first conductive surface and the second circuit board first conductive
5 surface such that the first circuit board and the second circuit board are separated by a
6 standoff distance.

1 8. The apparatus of claim 1, wherein:
2 the second conductive member is rigid and disposable between the first circuit
3 board second conductive surface and the second circuit board second conductive surface.

1 9. The apparatus of claim 1, wherein:
2 the first circuit board first conductive surface is electrically coupled to a power
3 signal of the first circuit board;
4 the first circuit board second conductive surface is electrically coupled to a ground
5 return of the power signal;
6 the second circuit board first conductive surface is electrically coupled to a
7 component of the second circuit board; and
8 the second circuit board conductive surface is electrically coupled to the ground
9 return of the power signal.

1 10. The apparatus of claim 1, further comprising:
2 a compressible conductive member, disposed between the second circuit board first
3 surface and the second conductive member second surface.

1 11. The apparatus of claim 10, wherein the compressible conductive member
2 is a crushable washer.

1 12. The apparatus of claim 1, wherein the second conductive member
2 comprises a compressibly compliant portion urging contact between the second
3 conductive member and the first circuit board second conductive surface and the second
4 circuit board second conductive surface.

1 13. The apparatus of claim 12, wherein the compressibly compliant portion is
2 a spring portion.

1 14. The apparatus of claim 12, wherein the spring portion is disposed at the
2 first end and compressibly contacts the second circuit board second conductive surface.

1 15. The apparatus of claim 12, wherein the spring portion is disposed at the
2 second end and compressibly contacts the first circuit board second conductive surface.

1 16. The apparatus of claim 13, wherein the spring portion is disposed at the
2 first end or the second end.

1 17. The apparatus of claim 1, further comprising a compressibly compliant
2 member electrically coupled to the second conductive member, the compressibly
3 compliant member urging contact between the second conductive member and the first
4 circuit board second conductive surface and the second circuit board conductive surface.

1 18. The apparatus of claim 1, wherein further comprising:
2 a first contact, electrically coupled to the second circuit board second conductive
3 surface, the first contact slidably contacting an outer surface of the second conductive
4 member; and
5 a second contact, electrically coupled to the second circuit board first conductive
6 surface, the second contact slidably contacting an inner surface of the first conductive
7 member.

1 19. The apparatus of claim 18, further comprising an insulating member
2 disposed between a portion of the first contact adjacent the second conductive member
3 second surface.

1 20. The apparatus of claim 18, wherein the first contact and the second contact
2 are spring members.

1 21. The apparatus of claim 1, wherein a conductive member selected from a
2 group comprising the first conductive member and the second conductive member is
3 electrically coupled to the first circuit board first circuit board first conductive surface by
4 a receptive spring assembly.

1 22. The apparatus of claim 21, wherein the receptive spring assembly
2 comprises:
3 a blade portion; and
4 a spring portion, for slidably contacting the blade portion

1 23. The apparatus of claim 22, wherein the spring portion is disposed at an end
2 selected from the first and second end of the selected conductive member.

1 24. The apparatus of claim 23, wherein the spring portion is a female receptive
2 spring portion forming a cavity shaped to slidably accept the blade portion.

1 25. The apparatus of claim 1, wherein:
2 the first circuit board comprises a first conductive plane; and
3 the first conductive plane is electrically coupled to the first circuit board first
4 conductive surface by at least one first electrical path perpendicular to the first conductive
5 plane.

1 26. The apparatus of claim 25, wherein the at least one first electrical path
2 comprises a first plurality of plated through holes.

1 27. The apparatus of claim 26, wherein the first plurality of plated through
2 holes are disposed about a first periphery of an aperture disposed through the first circuit
3 board.

1 28. The apparatus of claim 25, wherein:
2 the first circuit board further comprises a second conductive plane electrically
3 insulated from the first conductive plane; and
4 the second conductive plane is electrically coupled to the first circuit board second
5 conductive surface by at least one second electrical path perpendicular to the first
6 conductive plane.

1 29. The apparatus of claim 28, wherein the at least one second electrical path
2 comprises a second plurality of plated through holes.

1 30. The apparatus of claim 29, wherein the second plurality of plated through
2 holes are disposed about a second periphery of the aperture.

1 31. The apparatus of claim 1, wherein the first conductive member and the
2 second conductive member are arranged to provide at least circuit characteristic selected
3 from the group comprising inductance and capacitance so as to achieve a desired circuit
4 characteristic in combination with circuit elements on the first circuit board or the second
5 circuit board.

1 32. The apparatus of claim 1, further comprising one or more bypass
2 capacitive elements disposed on the first circuit board or the second circuit board and in
3 electrical communication with the first or the second conductive member.

1 33. The apparatus of claim 1, wherein the second conductive member is
2 formed from a conductive electromagnetic interference frame.

1 34. The apparatus of claim 1, further comprising a conductive electromagnetic
2 interference frame, disposed around the first conductive member and the second
3 conductive member.